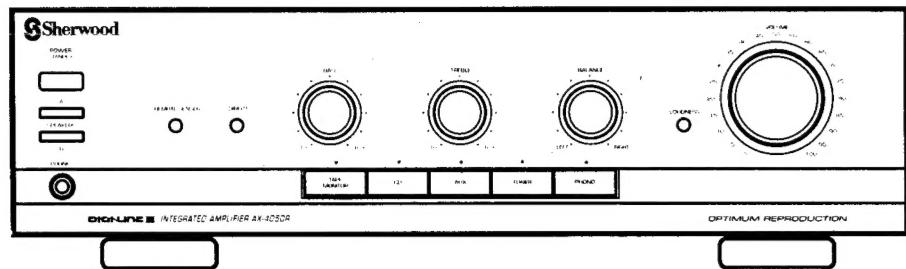


SERVICE MANUAL

AX-4050R STEREO INTEGRATED AMPLIFIER



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 **Sherwood**

SAFETY PRECAUTIONS

WARNING

Before servicing this unit, familiarize yourself with the following precautions:

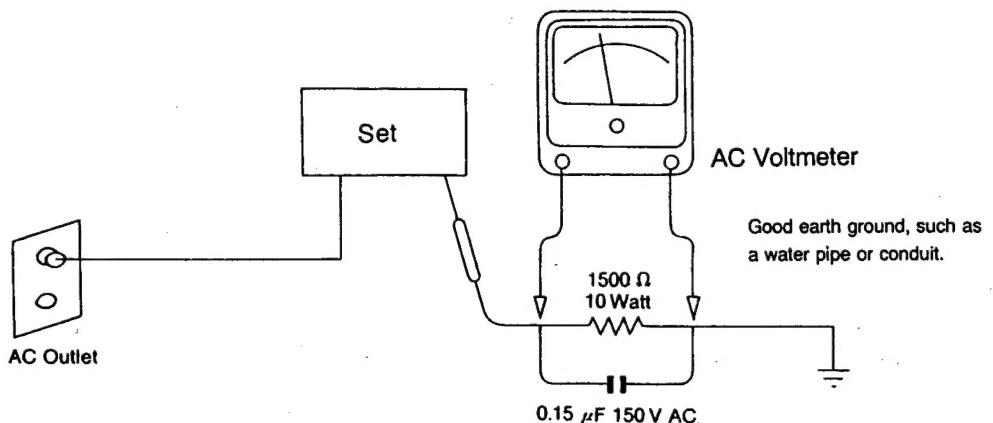
1. Many electrical and mechanical parts in this chassis have special safety characteristics that often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements: electrical components having such features are identified by \triangle in the schematic diagram and the parts list.

Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

2. Before returning the set to the customer, always do an AC leakage current check on the

exposed metal parts of the cabinet, such as terminals, screw heads, and metal overlays, to be sure the set is safe to operate. Danger of electrical shock. Plug the AC line cord directly into a 120 V AC outlet (120 V AC version only). (Do not use a line isolation transformer during this check.) Be sure your AC voltmeter has a sensitivity of 5000Ω per volt or greater. Then connect a 1500Ω 10 watt resistor, paralleled by a $0.15 \mu F$ 150 V AC capacitor, between a known good earth ground (such as a water pipe, or conduit) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of a 1500Ω resistor and a $0.15 \mu F$ capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.75 V RMS. This corresponds to 0.2 mA AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.

At 5000Ω per volt or greater sensitivity, the reading should not exceed 0.75 V.



Place the probe on each exposed metallic part.

SPECIFICATIONS

No.	Description	Unit	Nominal	Limit
1	RMS output power; both channels driven at 40 Hz-20 kHz freq., 0.08% THD, 8 Ω load. both channels driven at 1 kHz freq., 0.08% THD, 8 Ω load	W	≥53	≥50
2	Inter Modulation distortion (60 Hz-7 kHz=4:1 SMPTE) at 8 Ω load, 50 W output.	%	≥55	≥50
3	Input sensitivity at 1 kHz freq., 8 Ω load, 50 W output.	PHONO CD, TAPE	mV mV	2.5±0.2 150±10
4	PHONO overload at 1 kHz freq., 0.1% THD PHONO input → TAPE2 MON. output	mV	≥145	≥140
5	PHONO equalization RIAA 40 Hz - 20 kHz, TAPE2 MON. output	dB	RIAA ±1	RIAA ±1.5
6	Frequency response at -3 dB	CD, TAPE	Hz	10 - 55000
7	Signal to noise ratio IHF-A weighted at volume max.	PHONO CD, TAPE	dB dB	≥73 ≥95
8	Tone control at 1 kHz 0 dB	100 Hz 10 kHz	dB dB	±10±1 ±10±1
9	Channel Separation at input shorted CD, TAPE	1 kHz 10 kHz	dB dB	≥55 ≥53
10	Crosstalk at 1 kHz freq. input shorted	CD⇒PHONO	dB	≥67
11	Total harmonic distortion at 40 Hz - 20 kHz freq., 8 Ω load, 50 W output	40 Hz 1 kHz 20 kHz	% % %	≤0.03 ≤0.03 ≤0.03

General

Speaker load impedance	8 Ω
Power consumptions	340 W
Dimensions (W×H×D)	440×110×245 mm (17-5/16×4-11/16×9-11/16)
Weight (Net)	6.3 kg (13.9 lbs)

Power requirements:

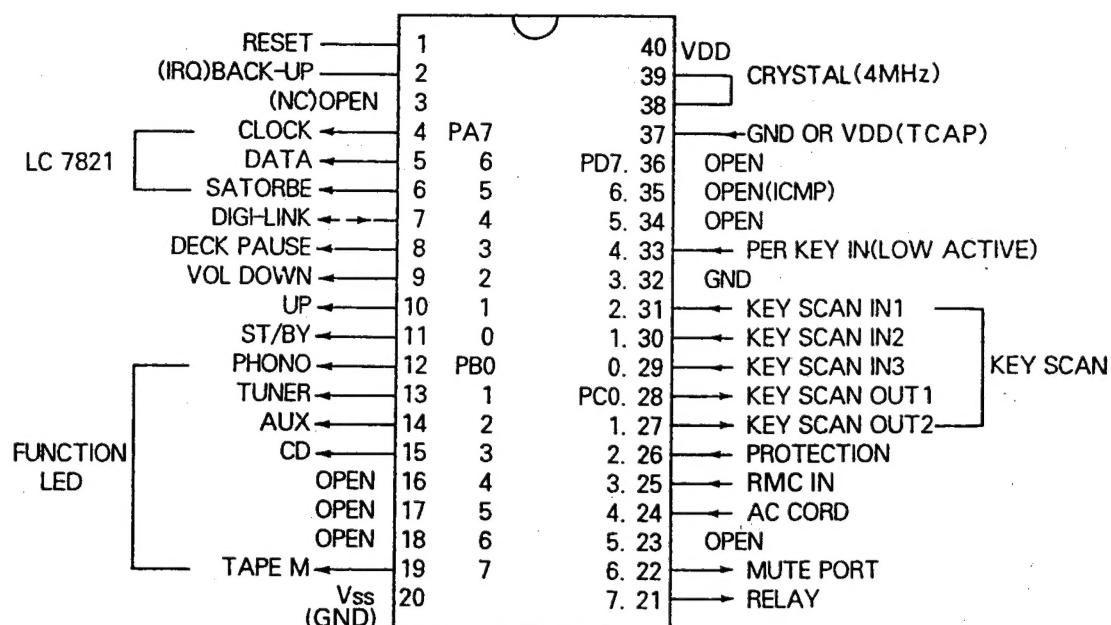
- A: 120 V 60 Hz for American/Canadian version
- B: 120/220 V 60/50 Hz multi voltage version (switchable)
- D: 230 V 50 Hz German/Gerneral European version
- E: 240 V 50 Hz for UK/Australian version
- G: 220 V 50 Hz for Other Area

Notes:

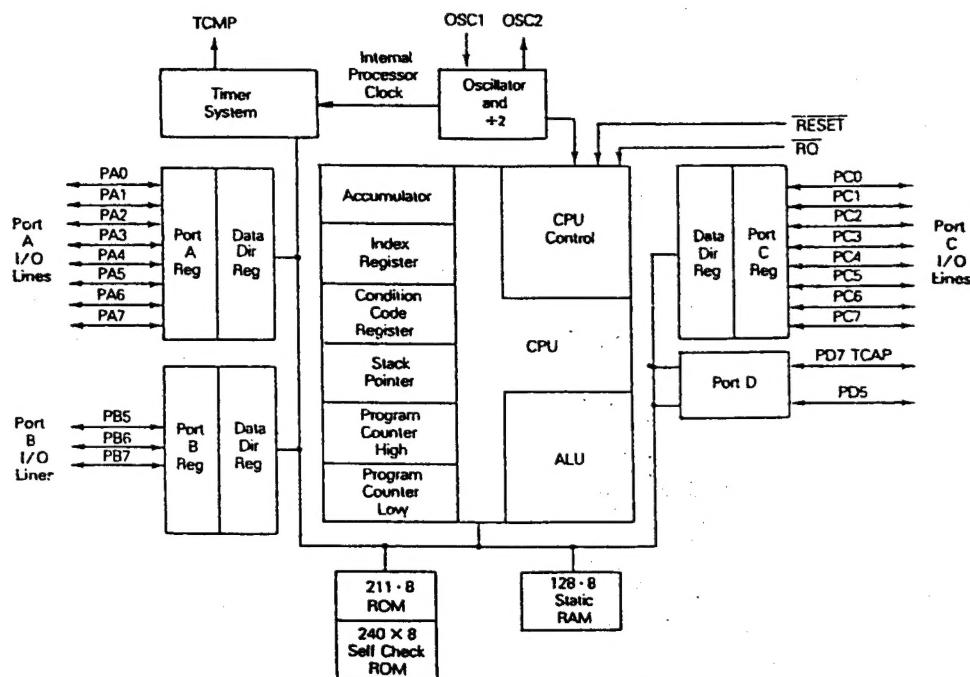
1. Nominal specs represent the design specs. All units should be able to approximate these some will exceed and some may drop slightly below these specs. Limit specs represent the absolute worst condition that still might be considered acceptable: in no case should a unit fail to meet limit specs.
2. This manual is based on the European (D) standard, and provides information on regional circuit modification through the use of alternate schematic diagram or wiring diagram, and information on regional component variations through the use of parts lists. Design and specifications subject to change without notice.

CIRCUIT DESCRIPTION

Pin assignment

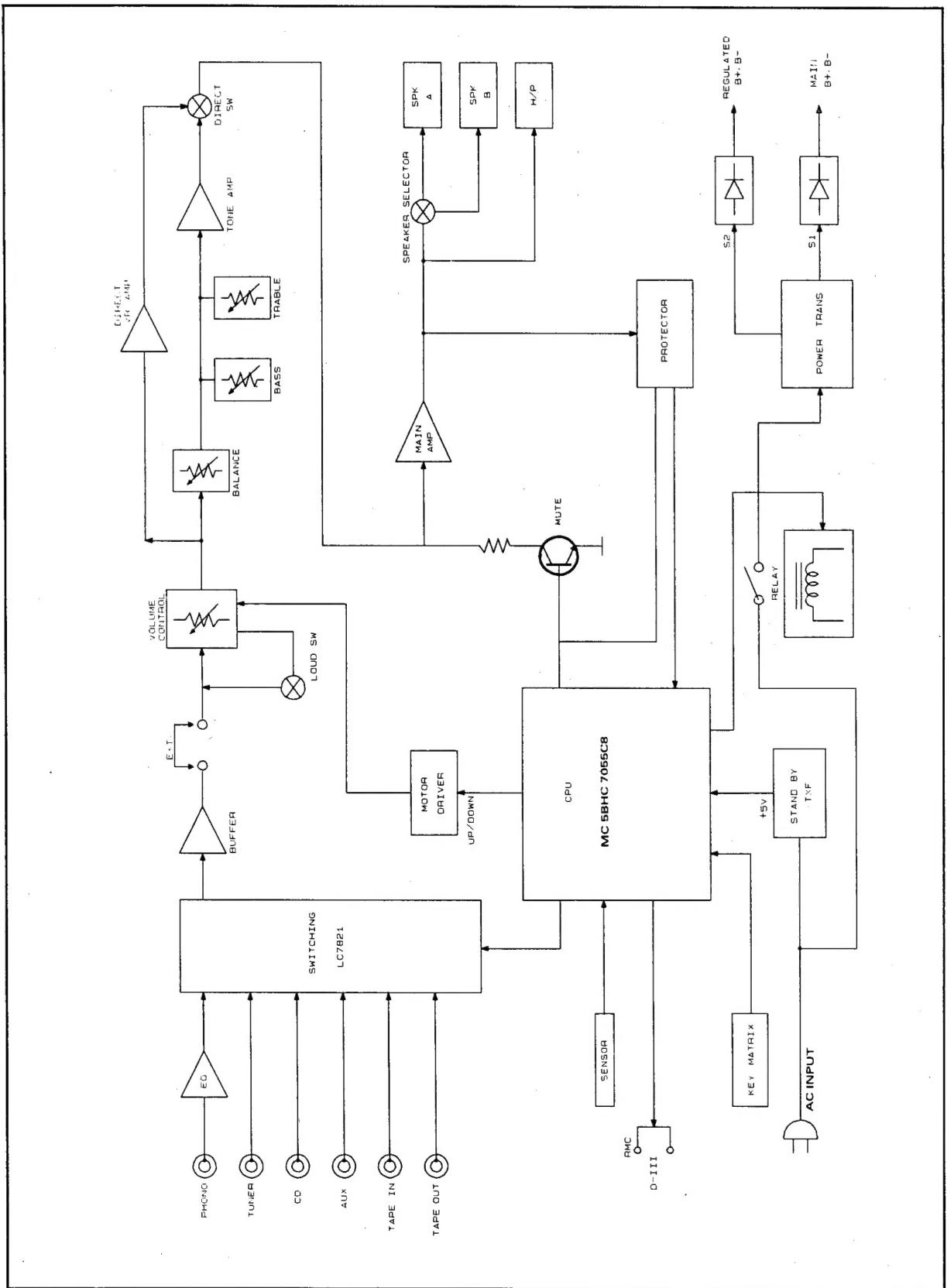


Block Diagram



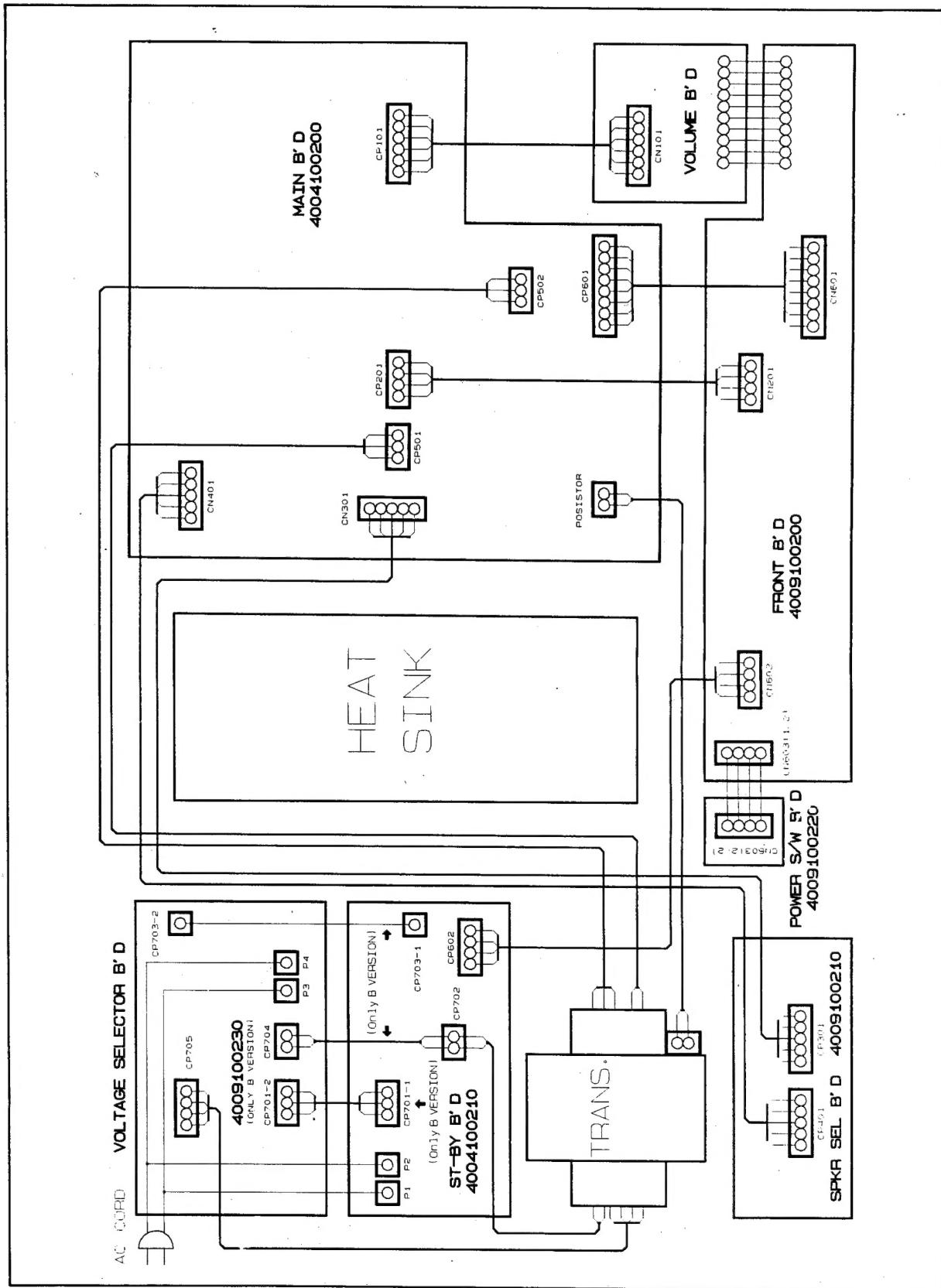
BLOCK DIAGRAM

Model No. : AX-4050R



WIRING DIAGRAM

Model No. : AX-4050R



TROUBLESHOOTING

Symptom	Cause and Remedy
Amplifier inoperative.	<ul style="list-style-type: none"> ● Faulty AC power cord. Replace. ● Defect in the power switch. Replace. ● Broken wire in the power transformer. Replace the power transformer. ● Blown fuse. Replace the fuse.
Fuse blows when power is turned on.	<ul style="list-style-type: none"> ● Defective power transformer. Replace. ● Short in the primary or secondary of the transformer circuitry. Replace. ● Damaged rectifying diodes D601~D604. Replace the defective diode(s). ● Short in the rectifying circuit. Repair the short.
No sound from both channels or one channel	<ul style="list-style-type: none"> ● Speaker switch A or B defective. Replace the defective switch(es). ● Defective in transistor Q311L/R, Q312L/R on the main board. Replace the defective transistor(s).
Headphones inoperative.	<ul style="list-style-type: none"> ● Defective resistor R401L/R. Replace.
All the inputs inoperative.	<ul style="list-style-type: none"> ● Defective IC IC102, IC103, IC201, IC202. Replace the defective IC(s).
All the inputs work normally except phono.	<ul style="list-style-type: none"> ● Defective IC101. Replace.
Loudness has no effect.	<ul style="list-style-type: none"> ● Defective loudness switch. Replace. ● Defective R201L/R, R202L/R, C201L/R, C202L/R. Replace
Bass control has no effect.	<ul style="list-style-type: none"> ● Variable resistor VR204 defective. Replace. ● Defective R212L/R, R213L/R, C212L/R, C213L/R. Replace.
Treble control has no effect.	<ul style="list-style-type: none"> ● Variable resistor VR203 defective. Replace. ● Defective R214L/R, R215L/R, C214L/R. Replace.

MECHANICAL PARTS LIST

Ref. No.	Description	Part No.	Q'ty	Veriton	Ref. No.	Description	Part No.	Q'ty	Veriton
	Packaging Materials				42	Adapter	4428300410	1	PT INDO(Only)
	Cushion Poly	9722030710	1		43	Switch, Voltage Sel., Slide 6P	4618006510	1	PT INDO(Only)
	Film Soft PE	9715000120	1		44	Switch, Voltage Sel., Slide 3P	4618006610	1	PT INDO(Only)
	Poly Bag	9705001550	1						
	Box Carton	049605172132	1			Screws			
					S1-S5	#2BTC 3x8B, Black	8109230083	5	
					S6-S11	#2WPTC 3x8Y, Yellow	8159230081	6	
	Accessories				S12-S22	#2BTC 3x8B, Black	8109230083	11	
	Battery 1.5 V AA(R6M)	5518001610	2		S23	#2WPTC 3x8Y, Yellow	8159230081	1	
	Manual Instruction	9007018100	1	KS	S24	#2BTC 3x8B, Black	8109230083	1	
	Manual Instruction	9007018101	1	D	S25-S28	BSAM 4x8B, Black	8109440083	4	
	Manual Instruction	9007018102	1	PT INDO	S29	#2BTC 3x8B, Black	8109230083	1	
	Ass'y Commander	058581000166	1		S30	#2BTC 3x6B, Black	8109230083	1	
	Ass'y Commander	058581000165	1	KS	S31	#2BTC 3x6B, Black	8109230083	1	
					S32-S34	#2BTC 3x8B, Black	8109230083	3	
	Cabinet & Chassis				S35-S40	HEX MPSW 3x12Y, Yellow	8099130121	6	
1	Knob Main, ABS, Black	048543064011	1		S41-S46	#2WPTC 3x8Y, Yellow	8159230081	6	
2	Knob Rotary, ABS, Black	048545126611	3		S47-S55	#2BTC 3x6B, Black	8109230083	9	
3	Panel Front, ABS, Black	048501034611	1	KS	S56-S59	#2BTC 3x8B, Black	8109230083	4	
4	Panel Front, ABS, Black	048501034612	1		S60-S63	#1PT 3x10B, Black	8119130103	4	
	Badge, Inkel	048535038511	1	KS	S64-S68	#2BTC 3x8B, Black	8109230083	8	
	Badge, Sherwood	048535342011	1		S69-S76	#1PT 3x10B, Black	8119130103	8	
5	Guide LED	8555043110	6		S77	Ground	8155000710	1	
6	Button Power, ABS, Black	8543062910	1		S78-S79	#2BTC 3x8B, Black	8109230083	2	
7	Window Sensor	8555046110	1		S80	#2PTC 4x6Y, Yellow	8119240061	1	
8	Jack Phone, Gold Ring	4438005010	1		S81-S82	#2BTC 3x8B, Black	8109230083	2	
9	Switch Speaker Selector, Push	4628056410	2		S83-S86	BSAM 4x8B, Black	8109440083	4	
10	Button Speaker Sel., Push, ABS, Black	8545126210	2		S87	#2WPTC 3x8Y, Yellow	8159230081	1	
11	Bracket Speaker, Shield	6165149210	1						
12	Knob Function, ABS, Black	048543064111	1	KS					
	Knob Function, ABS, Black	048543064112	1		Miscellaneous				
13	Shield Fence, Volume	6165150610	4		Lead Ass'y, 5P, 450mm, From CN301 to CP301	436105453021	1		
14	Shield Fence, Function	6163114910	1		Lead Ass'y, 5P, 400mm, From CN401 to CP401	436105403061	1		
15	Button Direct Switch, ABS, Black	8545126710	2		Power Transformer, 220 V, 60 Hz	2828100283	1	KS	
16	Switch Tact, SW2, SW3, SW4, SW5, SW6	4658003710	6		Power Transformer, 230 V, 50 Hz	2828100381	1	D	
17	Holder, Sensor	6515014110	1		Power Transformer, 110/220 V, 50/60 Hz	2828100391	1	PT INDO	
18	Switch Direct, Push	4628043810	2		P1	P.C. Board Main	4004100200	1	
19	Volume BASS/TREBLE, with Nut	3208069010	2		P1-1	P.C. Board Stand-by	4004100210	1	
20	Volume Main, with Nut	3208065110	1		P2	P.C. Board Front	4009100200	1	
21	Frame Left, SECC	6122631220	1		P2-1	P.C. Board Speaker Selector	4009100210	1	
22	Heatsink Power, Aluminum	7502007420	1		P2-2	P.C. Board Power Switch	4009100220	1	
23	Bracket PCB, SECC	6505130010	1		P2-3	P.C. Board Voltage Selector	4009100230	1	PT INDO(Only)
24	Speaker Terminal, 8P	4408105510	1	KS, PT INDO					
	Speaker Terminal, 8P	4408105810	1	D					
25	Jack RCA Degi-Link, 2P	4438112010	1						
26	Jack RCA EXT IN/OUT, 4P	4438103110	1						
27	Jack RCA TAPE IN/OUT, CD, 6P	4438103210	1						
28	Jack RCA AUX, TUNER, PHONO, 6P	4438108010	1						
29	Sponge Rubber	6715024810	1						
30	Cover Bottom, SECC	6122419510	1						
31	Frame Right, SECC	6122620340	1						
32	Foot, Gold Ring	046033102611	2	KS					
	Foot, Gold Ring	046033102511	2						
33	Foot, Black	6033102510	2						
34	Outlet	4448105510	2	KS					
	Outlet	4448103610	2	D,PT INDO					
35	Chassis Back, SECC	046102042411	1	KS					
	Chassis Back, SECC	046102042451	1	D					
	Chassis Back, SECC	046102042491	1	PT INDO					
36	Stopper Cord, ABS, Black	6513000310	1	KS					
	Stopper Cord, ABS, Black	6518000111	1						
37	Cord Power, ABS, Black	4308007410	1						
	Cord Power, ABS, Black	4308000430	1						
38	Plug Jumper	4328204210	2						
39	Terminal Ground	4408104910	1	KS					
	Terminal Ground	4408103720	1						
40	Cover Top, SECC	046122021331	1						
	Volume Balance with Nut	3208067810	1						

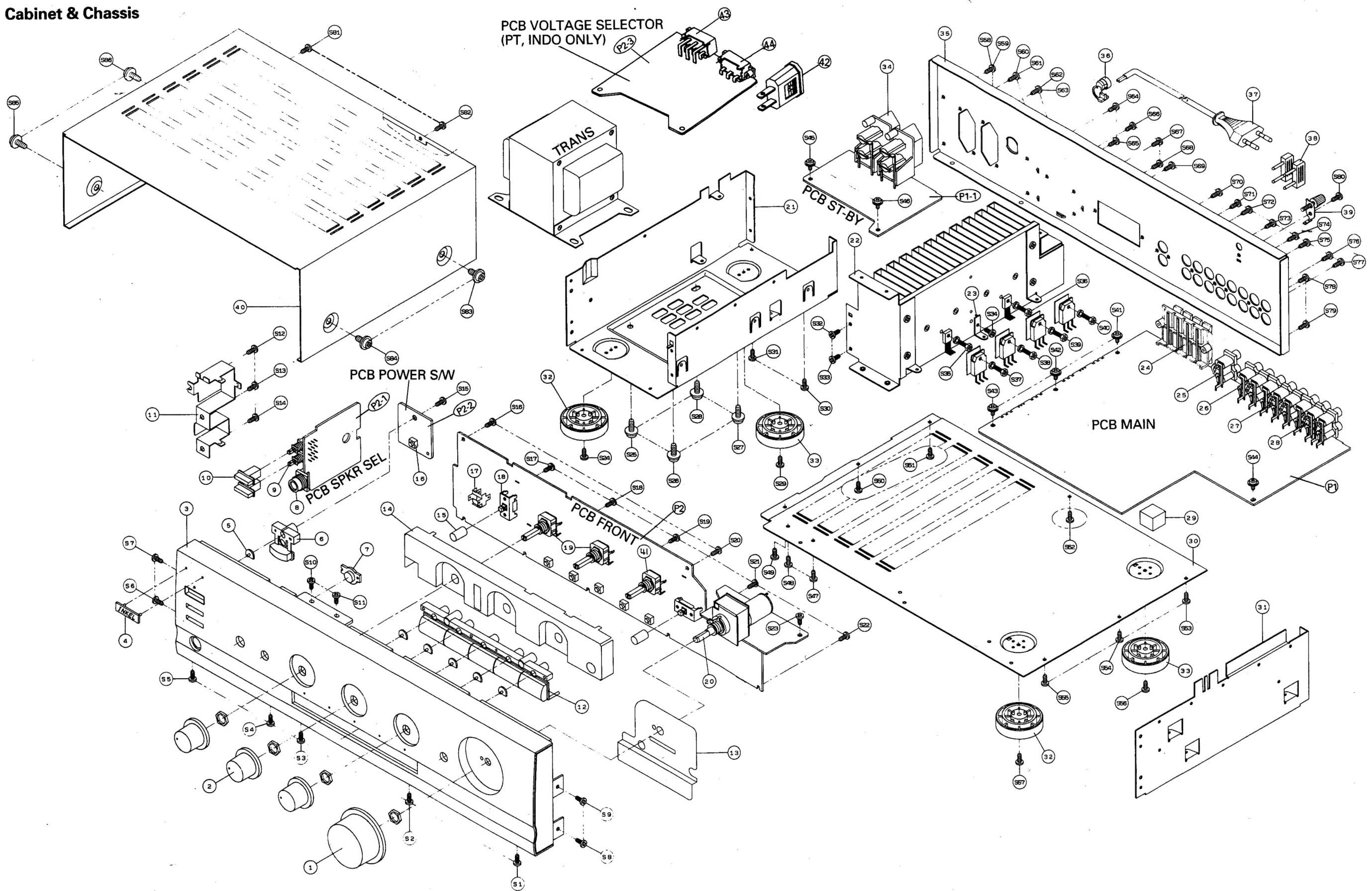
PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol Δ in the parts list and the safety can be of special significance. When replacing a component identified with Δ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

EXPLODED VIEW

Model No. : AX-4050R

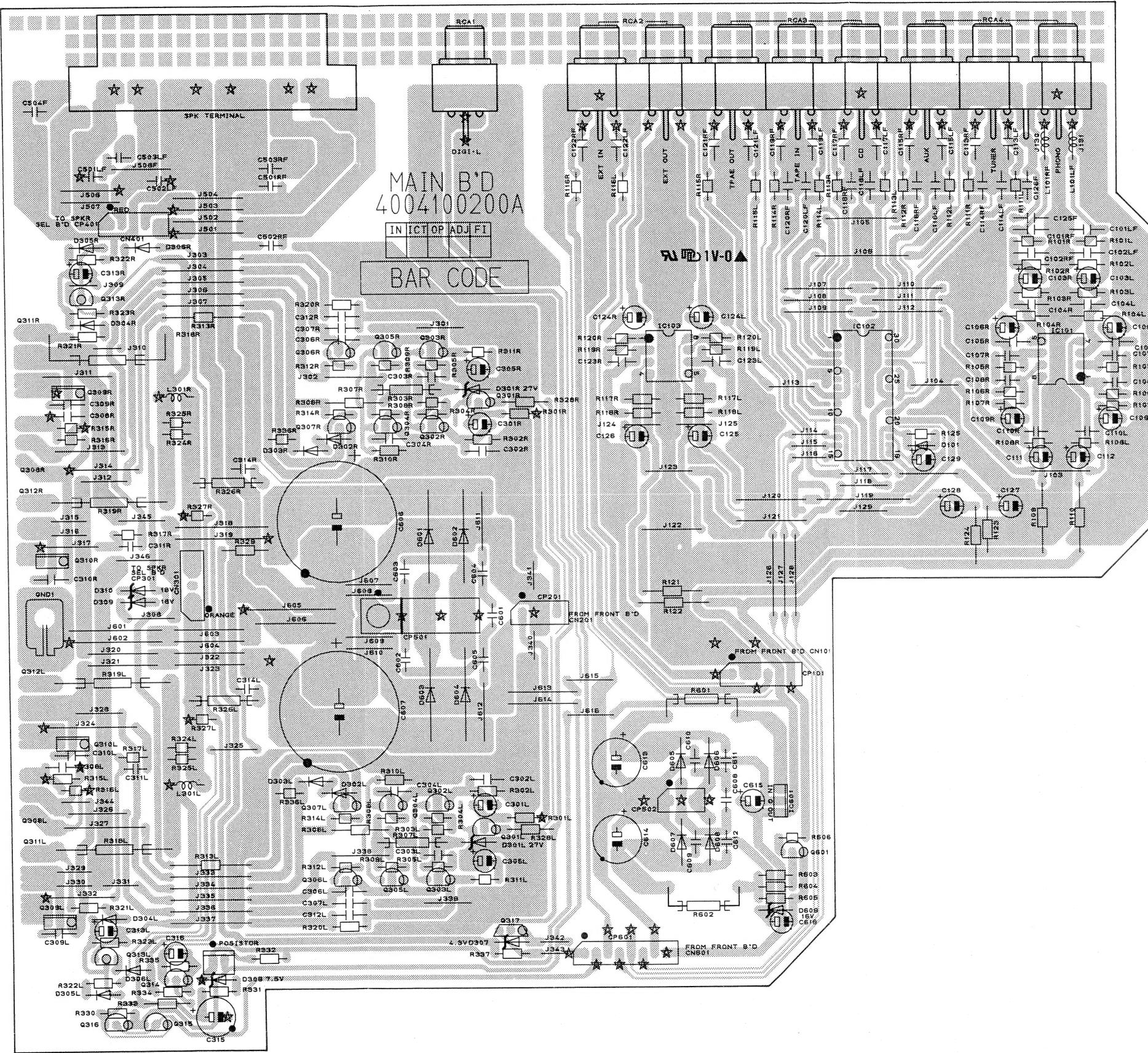
Cabinet & Chassis



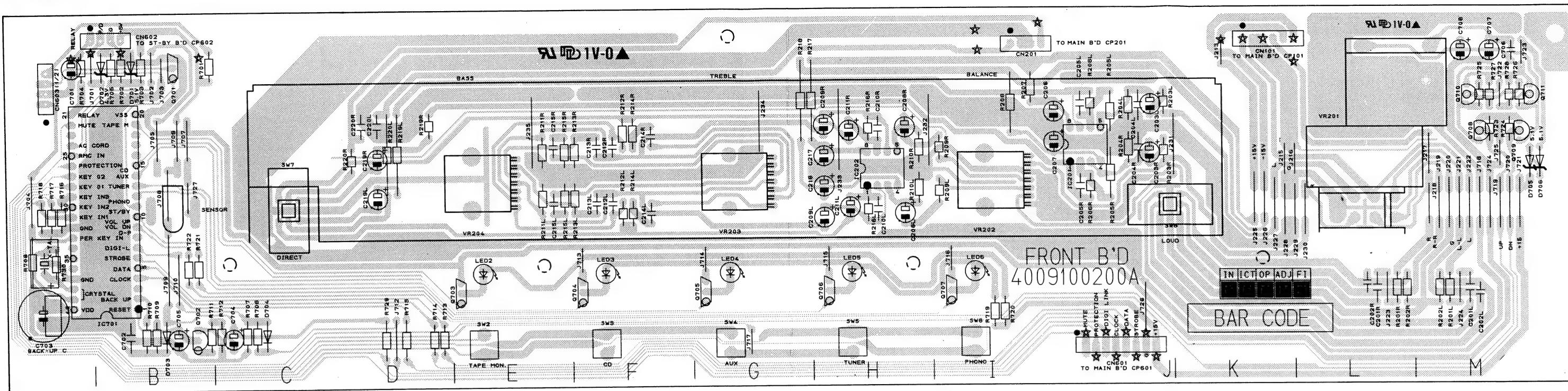
PRINTED CIRCUIT BOARDS

Model No. : AX-4050R

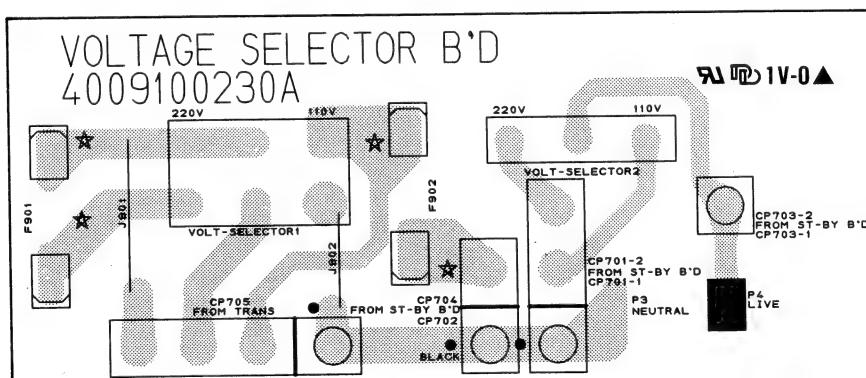
P.C. Board Main(4004100200)



P.C. Board Front (4009100200)

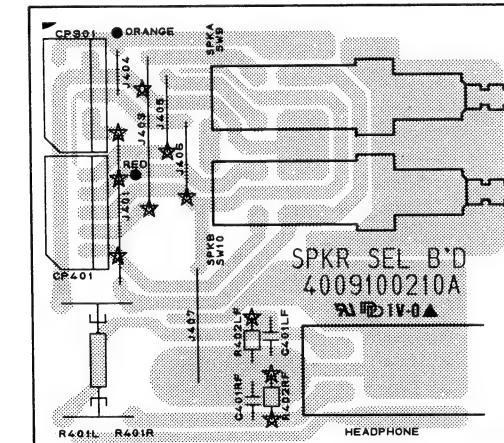


P.C. Board Voltage Selector(4009100230)

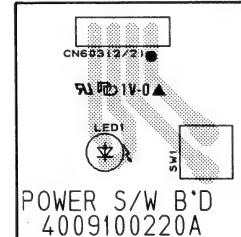


PT INDO Version Only

P.C. Board SPKR SEL (4009100210)



P.C. Board Power S/W (4009100220)



ELECTRICAL PARTS LIST

Ref. No.	Description	Part No.	Q'ty	Vertion	Ref. No.	Description	Part No.	Q'ty	Vertion	Ref. No.	Description	Part No.	Q'ty	Vertion	Ref. No.	Description	Part No.	Q'ty	Vertion	Ref. No.	Description	Part No.	Q'ty	Vertion	
PRODUCT SAFETY NOTICE: Products marked with Δ have special characteristics important to safety. If you replace of these components, read carefully the product safety notice in the manual.																									
Resistor/Capacitor Tolerance, D:($\pm 0.5\%$), J:($\pm 5\%$), K:($\pm 10\%$), M:($\pm 20\%$), Z:($+80, -20\%$).																									
Ass'y P.C.Board Main																									
Capacitors																									
C101LF/RF	Ceramic Tubular	100	pF	50 V	J	3519101935	2	D(Only)	R106L/R	Carbon Film	560	kohm	1/5 W	J	3069564970	2		D101	Diodes	2058322101	1	D801-D805	Diodes	2258100135	5
C102LF/RF	Ceramic Tubular	100	pF	50 V	J	3519101935	2	D(Only)	R107L/R	Carbon Film	470	ohm	1/5 W	J	3069471970	2		D301L/R	Zener, UZ 27.0BSC	2258599115	2				
C103L/R	Electrolytic SG	10	uF	50 V	M	3479310071	2		R110	Carbon Film	470	ohm	1/5 W	J	3069471970	1		D302L/R	1N4148, Switching	2058322101	2				
C104L/R	Ceramic Tubular	100	pF	50 V	J	3519101935	2		R111L/R	Carbon Film	1	kohm	1/5 W	J	3069102970	2		D303L/R	1N4148, Switching	2058322101	2	Q801	Transistor	2208606114	1
C105L/R	Ceramic Tubular	2200	pF	16 V	J	3519222915	2		R112L/R	Carbon Film	1	kohm	1/5 W	J	3069102970	2		D304L/R	1N4148, Switching	2058322101	2		MPSA06, NPN, Silicon	2208606114	1
C106L/R	Electrolytic SG	100	uF	10 V	M	3479310121	2		R113L/R	Carbon Film	1	kohm	1/5 W	J	3069102970	2		D305L/R	1N4148, Switching	2058322101	2				
C107L/R	Mylar	0.0018	uF	100 V	J	3679182120	2		R114L/R	Carbon Film	1	kohm	1/5 W	J	3069102970	2		D306L/R	1N4148, Switching	2058322101	2	CP602	Connectors	4428505610	1
C108L/R	Mylar	0.0056	uF	100 V	J	3679562120	2		R115L/R	Carbon Film	1	kohm	1/5 W	J	3069102970	2		D307	Zener, UZ 4.3BSB	2258599102	1	CP701-1	Wafer, 4P	4358850314	1
C109L/R	Electrolytic SG	4.7	uF	50 V	M	3479247971	2		R116L/R	Carbon Film	1	kohm	1/5 W	J	3069102970	2		D308	Zener, UZ 7.5BSC	2258599130	1	CP702	Lead Ass'y, LV 3P, AC, 160mm	4428525780	1
C110L/R	Mylar	0.0056	uF	100 V	J	3679562120	2		R117L/R	Carbon Film	47	kohm	1/5 W	J	3069473970	2		D309/D310	Zener, UZ 18.0BSC	2258599127	2	(CP702)	Lead Ass'y, LV 2P, AC, 160mm	4358850214	1
C111C112	Electrolytic SG	47	uF	25 V	M	3479347031	2		R118L/R	Carbon Film	6.8	kohm	1/5 W	J	3069682970	2		D601-D604	1N5402, Rectifier	2058100136	4	CP703-1	Lead Ass'y, LV 1P, AC, 140mm	4359852214	1
C113LF/RF	Ceramic Tubular	100	pF	50 V	J	3519101935	2	D(Only)	R119L/R	Carbon Film	3	kohm	1/5 W	J	3069302970	2		D605-D608	1N4002, Rectifier	2258100135	4				
C114LF/RF	Ceramic Tubular	100	pF	50 V	J	3519101935	2	D(Only)	R120L/R	Carbon Film	470	ohm	1/5 W	J	3069471970	2		D609	Zener, UZ 16.0BSD	2258599117	1		Fuses	45580200930	1
C115LF/RF	Ceramic Tubular	100	pF	50 V	J	3519101935	2	D(Only)	R121-R124	Carbon Film	100	ohm	1/5 W	J	3069101970	4				F701	NB 150 mA, 250 V	5508200930	1		
C116LF/RF	Ceramic Tubular	100	pF	50 V	J	3519101935	2	D(Only)	R125	Carbon Film	100	kohm	1/5 W	J	3069104970	1				(F701)	T 160 mA, 250 V	5508301035	1		
C117LF/RF	Ceramic Tubular	100	pF	50 V	J	3519101935	2	D(Only)	R301L/R	Carbon Film	1	kohm	1/5 W	J	3069102970	2		Q301L/R	KTD1302, NPN, Silicon	2208610102	2	F702	Lead Ass'y, LV 3P, AC, 160mm	4428505610	1
C118LF/RF	Ceramic Tubular	100	pF	50 V	J	3519101935	2	D(Only)	R302L/R	Carbon Film	39	kohm	1/5 W	J	3069393970	2		Q302L/R	KTC2240B/BKTC3200, NPN, Silicon	2208606108	2	F703	Lead Ass'y, LV 2P, AC, 160mm	4428525780	1
C119LF/RF	Ceramic Tubular	100	pF	50 V	J	3519101935	2	D(Only)	R303L/R	Carbon Film	680	ohm	1/5 W	J	3069681970	2		Q303L/R	KTC2240B/BKTC3200, NPN, Silicon	2208606108	2	(F703)	Lead Ass'y, LV 1P, AC, 140mm	4358850214	1
C120LF/RF	Ceramic Tubular	100	pF	50 V	J	3519101935	2	D(Only)	R304L/R	Carbon Film	10	kohm	1/5 W	J	3069103970	2		Q304L/R	KTC2240B/BKTC3200, NPN, Silicon	2208606108	2		Miscellaneous	45580200930	1
C121LF/RF	Ceramic Tubular	100	pF	50 V	J	3519101935	2	D(Only)	R305L/R	Carbon Film	10	kohm	1/5 W	J	3069103970	2		Q305L/R	KTC2240B/BKTC3200, NPN, Silicon	2208606108	2				
C122LF/RF	Ceramic Tubular	100	pF	50 V	J	3519101935	2	D(Only)	R306L/R	Carbon Film	100	kohm	1/5 W	J	3069104970	2		Q306L/R	BKTA949/KTA1024, PNP, Silicon	2208206102	2	RLY801	HR-CR7, DC 12V	5528042001	1
C123L/R	Ceramic Tubular	47	pF	50 V	J	3519470935	2		R307L/R	Metal Film	2.2	kohm	1 W	J	3029222470	2		Q307L/R	KTC2229/KTC3206, NPN, Silicon	2208606107	2	GND2	Plate, Ground	4235007310	1
C124L/R	Electrolytic SG	4.7	uF	50 V	M	3479247971	2		R308L/R	Carbon Film	1.2	kohm	1/5 W	J	3069122970	2		Q308L/R	2SC4137, Bias	2008622110	2	P1/P2	Pin solder	422801410	2
C125-C128	Electrolytic SG	47	uF	25 V	M	3479347031	4		R309L/R	Carbon Film	1.2	kohm	1/5 W	J	3069122970	2		Q309L/R	KSC2690, NPN, Silicon	2008602102	2	34	Ass'y P.C.Board Front	448105510	2
C129	Electrolytic SG	1	uF	50 V	M	3479310971	1		R310L/R	Carbon Film	12	kohm	1/5 W	J	3069123970	2		Q310L/R	KSA1220, PNP, Silicon	2008202101	2		Capacitors	448103610	2
C130F/C131	Ceramic Tubular	0.1	uF	50 V	J	3519104935	2	D(Only)	R311L/R	Carbon Film	2	kohm	1/5 W	J	3069202970	2		Q311L/R	2SD718/KTD718, FET, N-CH.	2028407109	2				
C301L/R	Electrolytic SG	3.3	uF	50 V	M	3479333971	2		R312L/R	Carbon Film	2.2	kohm	1 W	J	3029222470	2		Q312L/R	2SB88/BKTB688, FET, P-CH.	2028107106	2		End of P.C.B Stand-By	448103610	2
C302L/R	Ceramic Tubular	470	pF	50 V	J	3519471935	2		R308L/R	Carbon Film	1.2	kohm	1/5 W	J	3069122970	2		Q313L/R	MPSA06, NPN, Silicon	2208606114	2				
C303L/R	Ceramic Tubular	820	pF	50 V	J	3519821935	2		R309L/R	Carbon Film	1.2	kohm	1/5 W	J	3069122970	2		Q314	KTA1015Y/BKTA1266, PNP, Silicon	2208206105	1				
C304L/R	Ceramic Tubular	20	pF	50 V	J	3519200935	2		R310L/R	Carbon Film	120	ohm	1/5 W	J	3069123970	2		Q315/Q316	KTC1815Y/BKTC3198, NPN, Silicon	2208606104	2				
C305L/R	Electrolytic SG	10	uF	50 V	M	3479310071	2		R311L/R	Carbon Film	2.7	kohm	1/5 W	J	3069102970	2		Q317	DTA114YS/KRA107M	2238006103	1				
C306L/R	Ceramic Tubular	27	pF	50 V	J	3519270935	2		R312L/R	Carbon Film	330	ohm	1/5 W	J	3069331970	2		Q601	KTA1015Y/BKTA1266, PNP, Silicon	2208206105	1	C201L/R	Ceramic Tubular	3519561935	2
C307L/R	Ceramic Tubular	3	pF	50 V	J	3519033935	2		R313L/R	Carbon Film	0.27	ohm	5 W	K	3059278782	2		C202L/R	Mylar	3679224122	2	C203L/R	Electrolytic SG	4428505610	1
C308L/R	Ceramic Tubular	1000	pF	50 V	J	3519102935	2		R314L/R	Carbon Film	0.27	ohm	5 W	K	3059278782	2		C204L/R	Ceramic Tubular	351924					

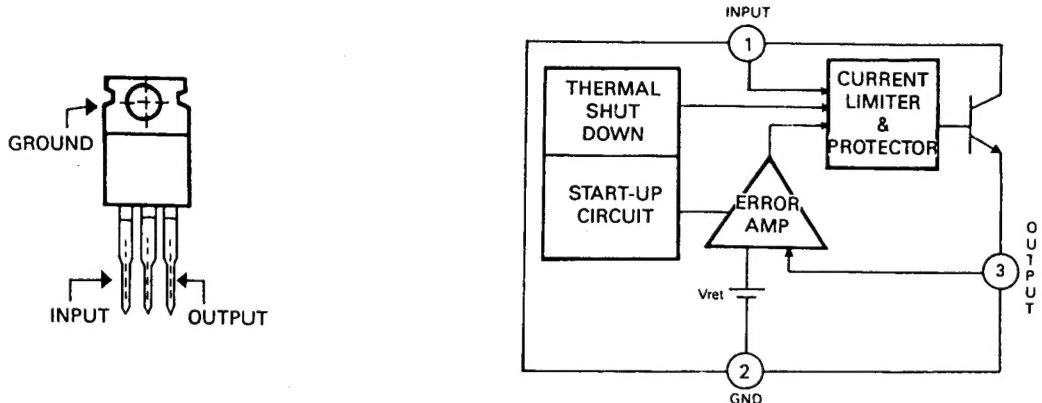
Ref. No.	Description	Part No.	Q'ty	Veriton	Ref. No.	Description	Part No.	Q'ty	Veriton
R211L/R	Carbon Film	100 kohm 1/5 W	J	3069104970	2				
R212L/R	Carbon Film	18 kohm 1/5 W	J	3069183970	2				
R213L/R	Carbon Film	3.9 kohm 1/5 W	J	3069392970	2	LED1	Ass'y P.C. Board Power Switch		
R214L/R	Carbon Film	1 kohm 1/5 W	J	3069102970	2		LED		
R215L/R	Carbon Film	560 ohm 1/5 W	J	3069561970	2		SLR-34RCN49, Red	2381215704	1
R216L/R	Carbon Film	1Mohm 1/5 W	J	3069105970	2	CN603(2/2)	Connector		
R217/R218	Carbon Film	100 ohm 1/5 W	J	3069101970	2		A pair of CN603(1/2)		1
R219L/R	Carbon Film	100 ohm 1/5 W	J	3069101970	2		Miscellaneous		
R220L/R	Carbon Film	1 kohm 1/5 W	J	3069102970	2	16	Switch Tact, SW1	4658003710	1
R701	Carbon Film	1 kohm 1/5 W	J	3069102970	1		End of P.C.B Power Switch		
R702	Carbon Film	10 kohm 1/5 W	J	3069103970	1				
R703	Carbon Film	100 kohm 1/5 W	J	3069104970	1				
R704	Carbon Film	330 ohm 1/5 W	J	3069331970	1		Ass'y P.C. Board Speaker Selector		
R705	Carbon Film	1 kohm 1/5 W	J	3069102970	1		Capacitors		
R706	Carbon Film	22 kohm 1/5 W	J	3069223970	1	C401LF/RF	Ceramic Tubular	3519561935	2 D(Only)
R707	Carbon Film	220 kohm 1/5 W	J	3069224970	1		Resistors		
R708	Carbon Film	100 kohm 1/5 W	J	3069104970	1	R401L/R	Metal Film	3029471470	2
R709	Carbon Film	10 kohm 1/5 W	J	3069103970	1	R402LF/RF	Carbon Film	3069153970	2 D(Only)
R710	Carbon Film	100 kohm 1/5 W	J	3069104970	1		Connectors		
R711	Carbon Film	1 kohm 1/5 W	J	3069102970	1	CP301	Wafer, 5P, Angle	4428513450	1
R712-R715	Carbon Film	10 kohm 1/5 W	J	3069103970	4	CP401	Wafer, 5P, Angle	4428513450	1
R716-R718	Carbon Film	330 kohm 1/5 W	J	3069334970	3		Miscellaneous		
R719-R722	Carbon Film	1 kohm 1/5 W	J	3069102970	4	8	Jack Phone, Gold Ring	4438005010	1
R723/R724	Carbon Film	4.7 kohm 1/5 W	J	3069472970	2	9	Switch Speaker Selector, Push	4628056410	2
R725-R728	Carbon Film	1 kohm 1/5 W	J	3069102970	4		End of P.C.B Speaker Selector		
R729	Carbon Film	10 kohm 1/5 W	J	3069103970	1				
R730	Carbon Film	1 Mohm1/5 W	J	3069105970	1				
	Diodes								
D701	Zener, UZ 5.1BSB	2258599103	1						
D702	Zener, UZ 4.3BSB	2258599102	1				Ass'y P.C. Board Voltage Selector		PT INDO(Only)
D703/D704	1N4148, Switching	2058322101	2				Fuses		
D705/D706	Zener, UZ 5.1BSB	2258599103	2			F901	T 2.5 A, 250 V	5508302535	1
						F902	T 4 A, 250 V	5508302935	1
	LEDs								
LED2	SLR-34RCN49, Red	2381215704	1				Connectors		
LED3-LED6	SLR-34YCN49, Yellow	2384521501	4			CP701-2	Wafer, LV, 3P	4428525790	1
						CP703-2	Wafer, LV, 1P	4428525770	1
						CP704	Wafer, LV, 2P	4428525780	1
						CP705	Wafer, LV, 4P	4428525800	1
	Transistors						Miscellaneous		
Q701	DTC114Y	2208622106	1			P3	Pin Solder	4428001410	1
Q702	KTC1815Y/BKTC3198, NPN, Silicon	2208606104	1			P4	Pin Solder	4428001410	1
Q703-Q707	DTC114Y	2208622106	5			42	Adapter	4428300410	1
Q708/Q709	MPSA08Y, NPN, Silicon	2208606114	2			43	Switch, Voltage Sel., Slide 6P	4618006510	1
Q710/Q711	MPSA58Y, PNP, Silicon	2208206113	2			44	Switch, Voltage Sel., Slide 3P	4618006610	1
	ICs						End of P.C.B Voltage Selector		
IC201/IC202	KIA4559P/KIA75559P, OP AMP.	2168206104	2						
IC701	LSC412329P, DWP115, CPU	2138309172	1						
	Connectors								
CN101	Lead Ass'y, 6P, 100mm	436106103321	1						
CN201	Lead Ass'y, 4P, 200mm	436104203321	1						
CN601	Lead Ass'y, 8P, 100mm	436108103321	1						
CN602	Lead Ass'y, 4P, 280mm	436104283321	1						
CN603(1/2)	Lead Ass'y, 4P, 180mm, A pair of CN603(2/2)	436404183221	1						
	Miscellaneous								
SENSOR	Remote Sensor TFMS-5380B	2408005003	1						
16	Switch Tact, SW2, SW3, SW4, SW5, SW6	4658003710	5						
17	Holder, Sensor	6515014110	1						
19	Volume BASS/TREBLE, with Nut	3208069010	2						
20	Volume Main, with Nut	3208065110	1						
41	Volume Balance with Nut	3208067810	1						
	End of P.C.B Front								

PRODUCT SAFETY NOTICE

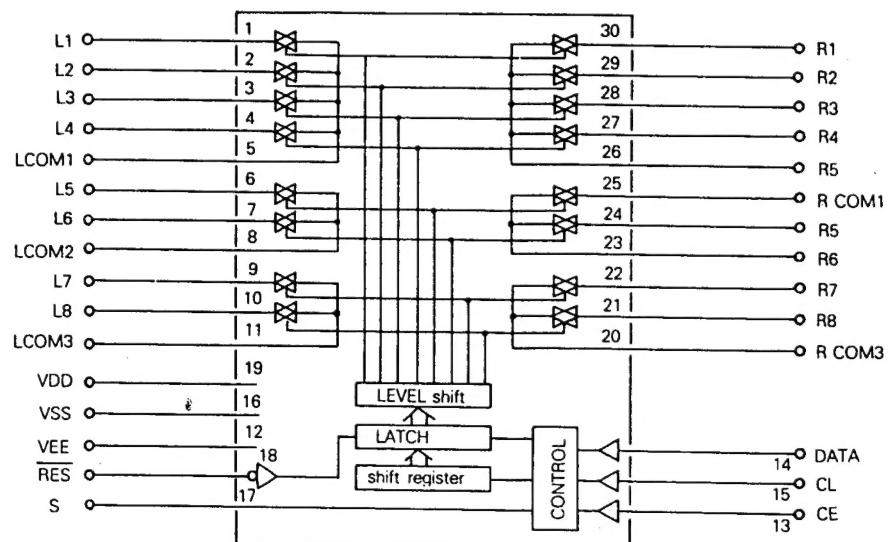
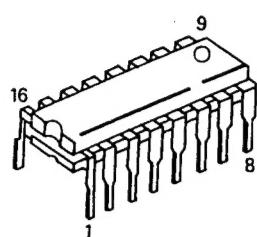
Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol Δ in the parts list and the safety can be of special significance. When replacing a component identified with Δ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

IC'S LEAD IDENTIFICATIONS & INTERNAL DIAGRAM

GD78XX : IC601, IC801

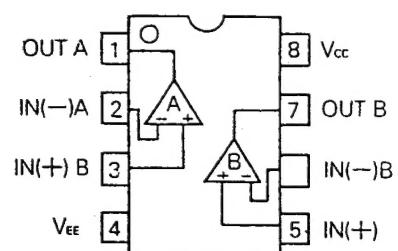
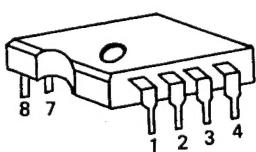


LC7821 : IC102



KIA7559P/KIA4559P

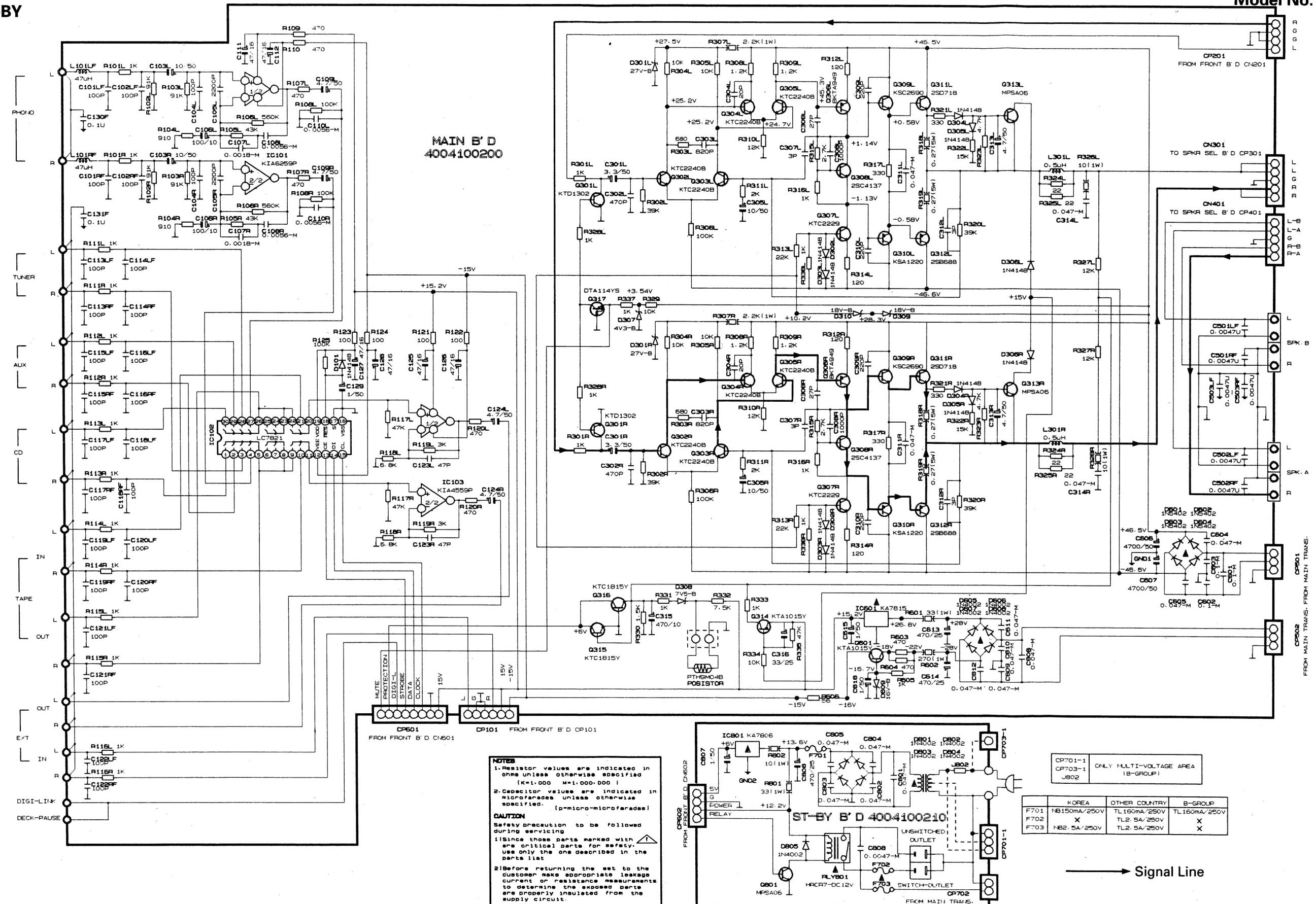
KIA6259P : IC101, IC103, IC201, IC201



SCHEMATIC DIAGRAM I

Model No. : AX-4050R

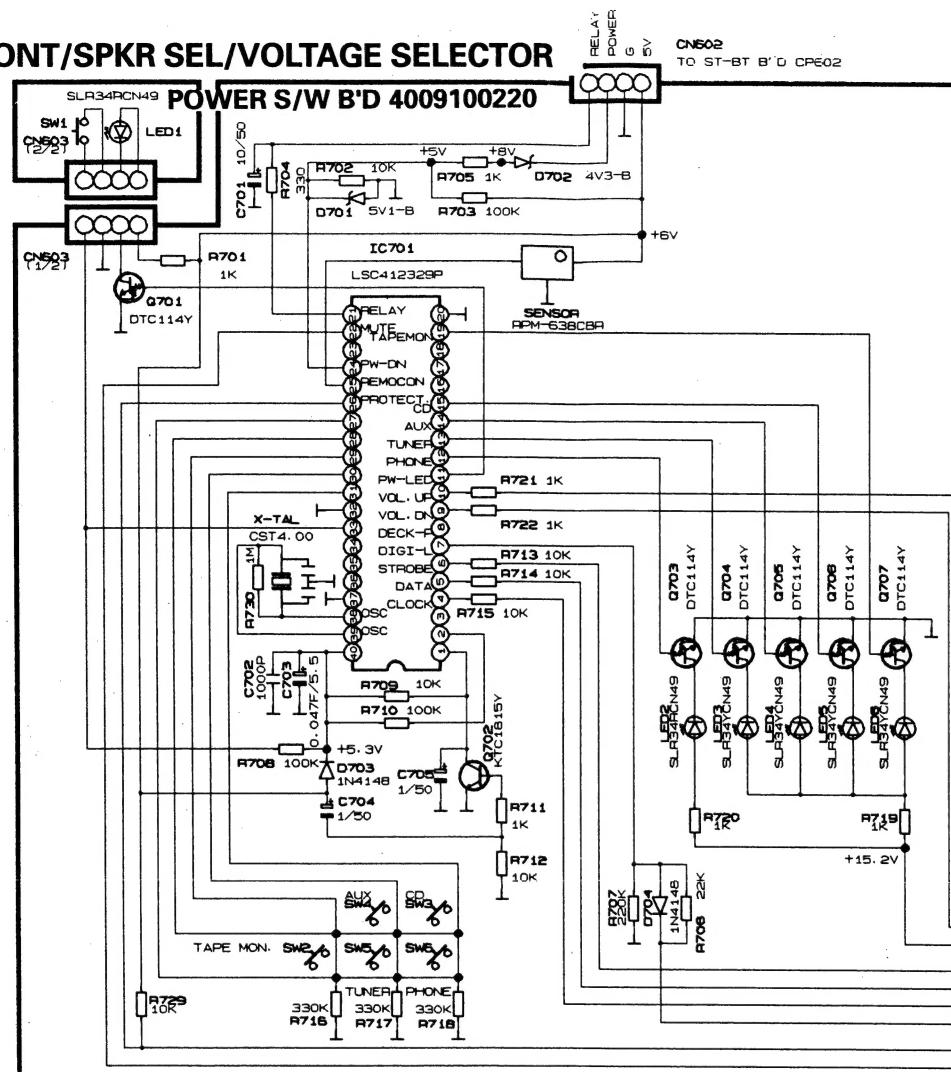
MAIN/ST-BY



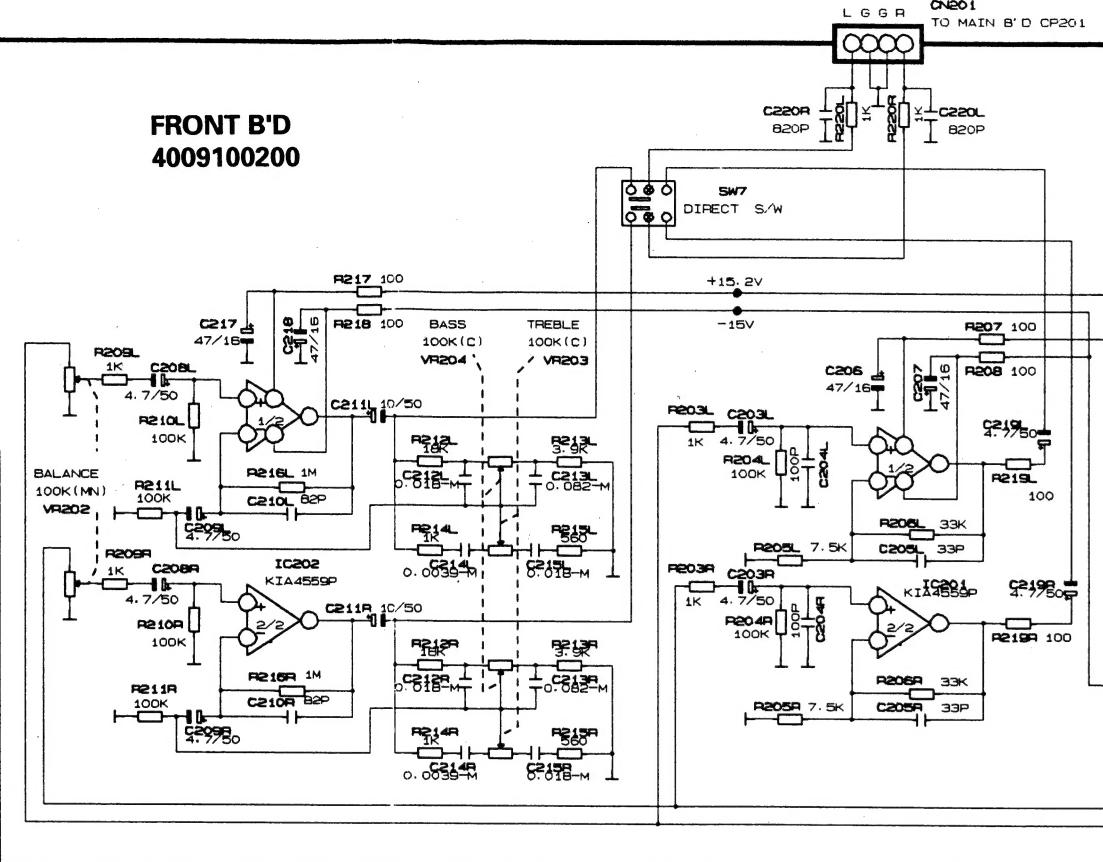
SCHEMATIC DIAGRAM I

FRONT/SPKR SEL/VOLTAGE SELECTOR

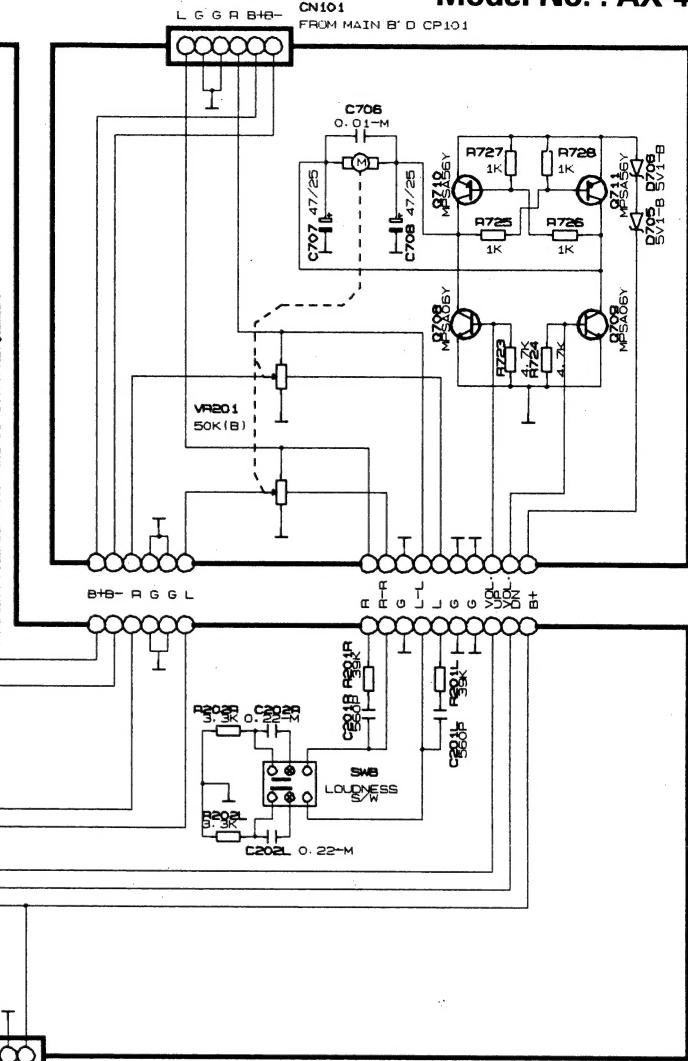
CN49 POWER S/W B'D 4009100220



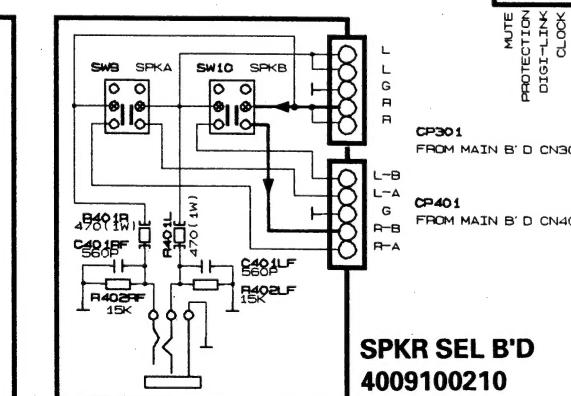
**FRONT B'D
4009100200**



Model No. : AX-4050R



The diagram illustrates the internal structure of a component selector switch (KTD1302) and its control logic. The switch has a 16x16 matrix of contacts and a 4x4 matrix of contacts. The control logic is implemented using discrete components like 1N4148 diodes and resistors. The output logic is a 47/100 decoder. The circuit is connected to various control buttons and a 220K pull-up resistor.



SPKR SEL B'I
4009100210

NOTES

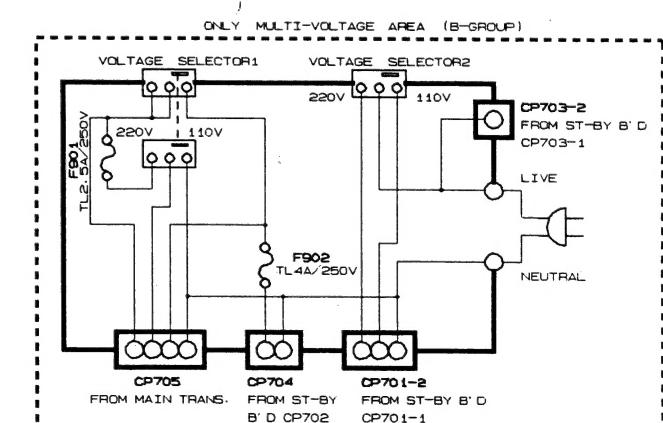
1. Resistor values are indicated in ohms unless otherwise specified
 $1K=1.000$ $M=1.000.000$!
2. Capacitor values are indicated in microfarads unless otherwise specified. $1p=$ micro-microfarads!

CAUTION

Safety precaution to be followed during servicing.

1) Since those parts marked with  are critical parts for safety, use only the one described in the parts list.

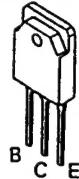
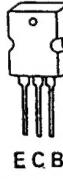
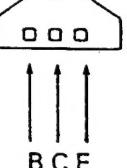
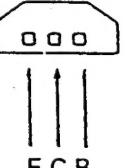
2) Before returning the set to the customer make appropriate leakage current or resistance measurement to determine the exposed parts are properly insulated from the supply circuit.



VOLTAGE SELECTOR B'D 4009100230

→ Signal Line

TRANSISTORS LEAD IDENTIFICATION

TRANSISTORS	FRONT VIEW	BOTTOM VIEW
KTB688/2SB688 KTD718/2SD718		
KSC2690 KSA1220		
2SC4137		
KTA1015/KTA1266 KTC1815/KTC3198 KTC2240/KTC3200 KTD1302		
KTC114YS KTA114YS		
KTA949/KTA1024 KTC2229/KTC3206		
MPSA06 MPSA56		
	TERMINAL NAME	
	B→BASE C→COLLECTOR E→EMITTER	